

Express Mail No. EV670649757US
Docket No.: 249768059US
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
John Chenault

Confirmation No. 9230

Application No.: 09/995,966

Art Unit: 2165

Filed: November 28, 2001

Examiner: N. Abel-Jalil

For: MAINTAINING THE CURRENCY OF
AVAILABILITY INFORMATION FOR
BUNDLES OF ITEMS

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PUBLISHING DIVISION

PETITION UNDER 37 CFR § 1.181

MS Office of Patent Publication
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Notice of Abandonment dated May 25, 2005 (copy attached), applicant respectfully submits that the Notice was issued in error.

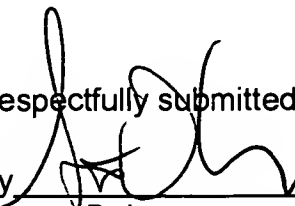
On January 13, 2005 a Notice of Allowance was issued (copy attached) which established a deadline of April 13, 2005 for paying the issue fee.

On March 4, 2005 a Supplemental Notice of Allowance was issued (copy attached) to correct an error occurring in an Examiner's Amendment contained in the January 13, 2005 Notice of Allowance. The Supplemental Notice establishes a new deadline of June 4, 2005 for paying the issue fee. We are paying the issue fee today. A copy of the Form PTOL-85 is enclosed.

Applicant respectfully requests that the Notice of Abandonment be withdrawn.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0665, under Order No. 249768059US, from which the undersigned is authorized to draw.

Dated: 6/1/05

Respectfully submitted,

By _____
Steven D. Lawrenz
Registration No.: 37,376
PERKINS COIE LLP
P.O. Box 1247
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24976.8059 US
SDL/JC



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,966	11/28/2001	John Chenault	249768059US	9230

25096 7590 05/25/2005

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EXAMINER

ABEL JALIL, NEVEEN

ART UNIT

PAPER NUMBER

2165

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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09995966

EXAMINER

ART UNIT	PAPER NUMBER
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DATE MAILED:

NOTICE OF ABANDONMENT

This application is abandoned in view of:

- ☐ Applicant's failure to timely file a proper reply to the Office letter mailed on _____.
- ☐ A reply (with Certificate of Mailing or Transmission of _____) was received on _____ which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
- ☐ A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 to the final rejection.
(A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
- ☐ A reply was received on _____, but it does not constitute a proper reply, or a *bona fide* attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in the last box below).
- ☐ No reply has been received.
- ☒ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
- ☐ The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85)(or Notice of Publication Fee Due).
- ☐ The submitted fee of \$ _____ is insufficient. A balance of \$ _____ is due.
The issue fee by 37 CFR 1.18 is \$ _____. The publication fee, if required, by 37 CFR 1.18(d) is \$ _____.
- ☒ The issue fee and publication fee, if applicable, have not been received.
- ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTOL-37).
- ☐ Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
- ☐ No corrected drawings have been received.
- ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all the applicants.
- ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon filing of a continuing application.
- ☐ The decision by the Board of Patent Appeals and Interferences rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.
- ☐ The reason(s) below: _____

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

Attachment to Notice of Abandonment

**For questions concerning the notice contact
Office of Patent Publication**

Image Assistance Center: 888-786-0101.

Information is also available on the USPTO Internet web site:
<http://www.uspto.gov/web/patents/pubs/abandonnotice.html>

Respond to the Notice of Abandonment by one of the following:

1. Petition To Withdraw Holding of Abandonment (See MPEP 711.03(c) I and 37 CFR § 1.181) No fee required

Where an applicant contends that the application is not in fact abandoned (e.g., a reply was in fact filed), a petition under 37 CFR § 1.181(a) requesting withdrawal of the holding of abandonment is the appropriate course of action. Any petition under 37 CFR § 1.181 to withdraw the holding of abandonment not filed within 2 months of the mail date of a Notice of Abandonment may be dismissed as untimely under 37 CFR § 1.181(f). In order for a petition to be granted, the evidence must be sufficient according to 37 CFR § 1.8(b) Certificate of Mailing 37 CFR § 1.10 "Express Mail" mailing or MPEP 503 Postcard Receipt as Prima Facie Evidence. The petition should be addressed as follows:

By mail: Mail Stop: Issue Fee, Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450
By facsimile: 703-872-9306

2. Petition To Withdraw Holding Of Abandonment Based On Failure To Receive Office Action (MPEP 711.03(c) II and 37 CFR § 1.181). No fee required

Where an applicant contends that the original Notice of Allowance and Fee(s) Due was never received, if adequately supported, the Office may grant the petition and remail the Office action. The showing required establishing non-receipt of an Office communication must include a statement from the practitioner stating that the Office communication was not received and attesting to the fact that a search of the file jacket and docket records indicates that the Office communication was not received. A copy of the docket record where the nonreceived Office would have been entered had it been received and docketed must be attached to and referenced in practitioner's statement.

Petition should be addressed to the Technology Center handling the application as follows:

By mail: Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450
By facsimile: 703-872-9306

3. Petition To Revive An Abandoned Application (See MPEP 711.03(c) III)

Where there is no dispute as to whether an application is abandoned (e.g., the applicant's contentions merely involve the cause of abandonment) a petition under 37 CFR § 1.137 (a) or (b) (accompanied by the appropriate petition fee) is necessary to revive the abandoned application. The text of these rules is available on the USPTO Internet Web site. Forms for these petitions, "Petition For Revival Of An Application For Patent Abandoned Unavoidably Under 37 CFR § 1.137(a)," PTO/SB/61, and "Petition For Revival Of An Application For Patent Abandoned Unintentionally Under 37 CFR 1.137(b)," PTO/SB/64, are available in the forms section of the USPTO website: <http://www.uspto.gov>.

Petitions under 37 CFR § 1.137 should be addressed to the Office of Petitions as follows:

By mail: Mail Stop Petition, Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450
By facsimile: 703-872-9306

Note: Abandonment takes place by operation of law for failure to reply to an Office action or timely pay the issue fee, not by operation of the mailing of a Notice of Abandonment



UNITED STATES PATENT AND TRADEMARK OFFICE

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SOLJG

NOTICE OF ALLOWANCE AND FEE(S) DUE

25096 7590 01/13/2005
PERKINS COIE LLP
PATENT-SEA
P.O. BOX 1247
SEATTLE, WA 98111-1247**RECEIVED**

JAN 18 2005

PERKINS COIE LLP

EXAMINER

ABEL JALIL, NEVEEN

ART UNIT

PAPER NUMBER

2165

DATE MAILED: 01/13/2005

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,966	11/28/2001	John Chenault	249768059US	9230

TITLE OF INVENTION: MAINTAINING THE CURRENCY OF AVAILABILITY INFORMATION FOR BUNDLES OF ITEMS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$0	\$1400	04/13/2005

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,966	11/28/2001	John Chenault	249768059US	9230
25096	7590	01/13/2005		
PERKINS COIE LLP PATENT-SEA P.O. BOX 1247 SEATTLE, WA 98111-1247				
EXAMINER ABEL JALIL, NEVEEN				
ART UNIT			PAPER NUMBER	
2165				

DATE MAILED: 01/13/2005

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 205 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 205 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571) 272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Notice of Allowability

Application No.

09/995,966

Examiner

Neveen Abel-Jalil

Applicant(s)

CHENAULT, JOHN

Art Unit

2165

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to November 24, 2004.
2. ☒ The allowed claim(s) is/are 1-3,24-35,37 and 39-63.
3. ☒ The drawings filed on 28 November 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


CHARLES RONES
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

Remarks

1. In response to the after-final amendment filed on October 25, 2004, claims 4-23, 36, and 38, have been cancelled. Claims 39-63 have been newly added. Therefore, claims 1-3, 24-35, 37, and 39-63 are now pending.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Steven D. Lawrenz (Attorney of Record) on January 4, 2005.

3. The application has been amended as follows:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listings of Claims:

Claim 1 (Original): A method in a computing system for updating the availability status attributed to predefined groups of offered items, comprising:

initializing a FIFO queue of item groups to be empty;

receiving a plurality of messages, each message identifying an offered item and indicating that the availability status of the identified item has changed;

in response to each received message:

identifying any item groups containing the identified item;

for each identified item group:

if the identified item group is not present in the queue of item groups, appending the item group to the queue;

when a timer expires:

for a predetermined number of item groups in the queue of item groups:

removing the item group from the queue of item groups;

updating the availability status attributed to the item group, based upon availability statuses of the items within the item group;

if, after removing the predetermined number of item groups, the queue of item groups is empty, setting a timer having a first duration; and

if, after removing the predetermined number of item groups, the queue of item groups is not empty, setting a timer having a second duration that is shorter than the first duration.

Claim 2 (Original): The method of claim 1 wherein the updating includes intersecting the availability statuses of the items within the item group.

Claim 3 (Original): The method of claim 1 wherein identifying any item groups containing the identified item includes accessing a list of item groups indexed by the items that they contain.

Claims 4-23 (Cancelled)

Claim 24 (Currently Amended): A method in a computing system for updating availability information for group items each containing one or more individual items, comprising:

- detecting each of a plurality of changes to availability information of individual items;
- in response to each detected change to availability information of an individual item:
- identifying group items containing the individual item; and

- for each of the identified group items, updating availability information of each of the identified group items item using the current availability information for each of the individual items contained by the identified group item,

- wherein each of the following updated availability information items is updated in
- includes at least one of the following identified group items:

- the a number of units available to sell in the a closest time bucket;
- the identify of the closest time bucket in which units will be available to sell;
- the a range of error in the closest time bucket;
- the source of the units that are available to sell;
- whether units can be replenished if more are needed than are in the a first time bucket;
- a source from which units can be replenished if more are needed than are in the first time bucket;
- the a replenishment cycle for the item;
- whether the item is suspended from sale; and

when stock in the item is expected to be exhausted.

Claim 25 (Original): The method of claim 24 wherein the detecting and identifying is performed in a first process, and wherein the updating is performed in a second process distinct from the first process.

Claim 26 (Original): The method of claim 24 wherein the detecting and identifying is performed by a first daemon, and wherein the updating is performed in a second daemon distinct from the first daemon.

Claim 27 (Original): The method of claim 24 wherein the detecting includes transmitting an asynchronous message for each detected change to availability information of an individual item.

Claim 28 (Original): The method of claim 27 wherein the identifying and updating is performed in response to receiving the transmitted asynchronous message.

Claim 29 (Original): The method of claim 24 wherein the detecting includes broadcasting to a plurality of recipients an asynchronous message for each detected change to availability information of an individual item.

Claim 30 (Original): The method of claim 24, further comprising adding the identified group items to a group item queue if not already present in the group item queue.

Claim 31 (Original): The method of claim 30 wherein availability information of group items in the group item queue is updated when a scheduling mechanism triggers the updating.

Claim 32 (Original): The method of claim 24 wherein the identifying and updating is performed immediately in response to the each detected change to availability information of an individual item.

Claim 33 (Original): The method of claim 24 wherein the identifying and updating is performed at a time later than each detected change to availability information of an individual item.

Claim 34 (Original): The method of claim 24 wherein the detecting includes receiving asynchronous messages each describing a cause for modifying availability information of an individual item.

Claim 35 (Original): The method of claim 24, further comprising, in response to a detected change to availability information of at least one individual item, for at least one of the group items identified as containing the individual item, transmitting an asynchronous message indicating the updated availability information for the group item.

Claim 36 (Cancelled)

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Claim 37 (Original): The method of claim 24, further comprising broadcasting to a plurality of recipients an asynchronous message indicating the update of availability information for each of the identified group items whose availability information is updated.

Claim 38 (Cancelled)

Claim 39 (Previously Presented): A computer-readable medium whose contents cause a computing system to perform a method for updating the availability status attributed to predefined groups of offered items, the method comprising:

- initializing a FIFO queue of item groups to be empty;
- receiving a plurality of messages, each message identifying an offered item and indicating that the availability status of the identified item has changed;
- in response to each received message:
 - identifying any item groups containing the identified item;
 - for each identified item group:
 - if the identified item group is not present in the queue of item groups, appending the item group to the queue;
 - when a timer expires:
 - for a predetermined number of item groups in the queue of item groups:
 - removing the item group from the queue of item groups;
 - updating the availability status attributed to the item group, based upon availability statuses of the items within the item group;

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if, after removing the predetermined number of item groups, the queue of item groups is empty, setting a timer having a first duration; and

if, after removing the predetermined number of item groups, the queue of item groups is not empty, setting a timer having a second duration that is shorter than the first duration.

Claim 40 (Previously Presented): The computer-readable medium of claim 39 wherein the updating includes intersecting the availability statuses of the items within the item group.

Claim 41 (Previously Presented): The computer-readable medium of claim 39 wherein identifying any item groups containing the identified item includes accessing a list of item groups indexed by the items that they contain.

Claim 42 (Previously Presented): A computing system for updating the availability status attributed to predefined groups of offered items, comprising:

an initialization subsystem that initializes a FIFO queue of item groups to be empty;

a receiving subsystem that receives a plurality of messages, each message identifying an offered item and indicating that the availability status of the identified item has changed;

a message processing subsystem that, in response to each received message:

identifies any item groups containing the identified item;

for each identified item group:

if the identified item group is not present in the queue of item groups, appends the item group to the queue;

a timer; and

a queue processing subsystem that,

when a timer expires:

for a predetermined number of item groups in the queue of item groups:

removes the item group from the queue of item groups;

updates the availability status attributed to the item group, based upon availability statuses of the items within the item group;

if, after removing the predetermined number of item groups, the queue of item groups is empty, sets a timer having a first duration; and

if, after removing the predetermined number of item groups, the queue of item groups is not empty, sets a timer having a second duration that is shorter than the first duration.

Claim 43 (Previously Presented): The computing system of claim 42 wherein the updating performed by the queue processing subsystem includes intersecting the availability statuses of the items within the item group.

Claim 44 (Previously Presented): The computing system of claim 42 wherein the identification of any item groups containing the identified item performed by the message processing subsystem includes accessing a list of item groups indexed by the items that they contain.

Claim 45 (Currently Amended): A computer-readable medium whose contents cause a computing system to perform a method for updating availability information for group items each containing one or more individual items, the method comprising:

detecting each of a plurality of changes to availability information of individual items;

in response to each detected change to availability information of an individual item:

identifying group items containing the individual item; and

for each of the identified group items, updating availability information of each of the identified group items item using the current availability information for each of the individual items contained by the identified group item,

wherein each of the following updated availability information items is updated in
includes at least one of the following identified group items:

the a number of units available to sell in the a closest time bucket;

the identify of the closest time bucket in which units will be available to sell;

the a range of error in the closest time bucket;

the source of the units that are available to sell;

whether units can be replenished if more are needed than are in the a first time bucket;

a source from which units can be replenished if more are needed than are in the first time bucket;

the a replenishment cycle for the item;

whether the item is suspended from sale; and

when stock in the item is expected to be exhausted.

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Claim 46 (Previously Presented): The computer-readable medium of claim 45 wherein the detecting and identifying is performed in a first process, and wherein the updating is performed in a second process distinct from the first process.

Claim 47 (Previously Presented): The computer-readable medium of claim 45 wherein the detecting and identifying is performed by a first daemon, and wherein the updating is performed in a second daemon distinct from the first daemon.

Claim 48 (Previously Presented): The computer-readable medium of claim 45 wherein the detecting includes transmitting an asynchronous message for each detected change to availability information of an individual item.

Claim 49 (Previously Presented): The computer-readable medium of claim 45 wherein the identifying and updating is performed in response to receiving the transmitted asynchronous message.

Claim 50 (Previously Presented): The computer-readable medium of claim 45 wherein the detecting includes broadcasting to a plurality of recipients an asynchronous message for each detected change to availability information of an individual item.

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Claim 51 (Previously Presented): The computer-readable medium of claim 45, the method further comprising adding the identified group items to a group item queue if not already present in the group item queue.

Claim 52 (Previously Presented): The computer-readable medium of claim 51 wherein availability information of group items in the group item queue is updated when a scheduling mechanism triggers the updating.

Claim 53 (Previously Presented): The computer-readable medium of claim 45 wherein the identifying and updating is performed immediately in response to the each detected change to availability information of an individual item.

Claim 54 (Previously Presented): The computer-readable medium of claim 45 wherein the identifying and updating is performed at a time later than each detected change to availability information of an individual item.

Claim 55 (Previously Presented): The computer-readable medium of claim 45 wherein the detecting includes receiving asynchronous messages each describing a cause for modifying availability information of an individual item.

Claim 56 (Previously Presented): The computer-readable medium of claim 45, the method further comprising, in response to a detected change to availability information of at least one

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individual item, for at least one of the group items identified as containing the individual item, transmitting an asynchronous message indicating the updated availability information for the group item.

Claim 57 (Previously Presented): The computer readable medium of claim 45, the method further comprising broadcasting to a plurality of recipients an asynchronous message indicating the update of availability information for each of the identified group items whose availability information is updated.

Claim 58 (Currently Amended): A computing system for updating availability information for group items each containing one or more individual items, comprising:

a detection subsystem that detects each of a plurality of changes to availability information of individual items;

an updating subsystem that, in response to each detected change to availability information of an individual item:

identifies group items containing the individual item; and

for each of the identified group items, updating availability information of ~~each of the~~ identified group ~~items~~ item using the current availability information for each of the individual items contained by the identified group item,

wherein each of the following updated availability information items is updated in ~~includes~~ at least one of the following identified group items:

~~the~~ a number of units available to sell in ~~the~~ a closest time bucket;

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the identify of the closest time bucket in which units will be available to sell;
the ~~a~~ range of error in the closest time bucket;
the source of the units that are available to sell;
whether units can be replenished if more are needed than are in the ~~a~~ first time bucket;
a source from which units can be replenished if more are needed than are in the first time
bucket;
the ~~a~~ replenishment cycle for the item;
whether the item is suspended from sale; and
when stock in the item is expected to be exhausted.

Claim 59 (Previously Presented): The computing system of claim 58 wherein the detecting performed by the detection subsystem includes transmitting an asynchronous message for each detected change to availability information of an individual item.

Claim 60 (Previously Presented): The computing system of claim 59 wherein the identifying and updating is performed in response to receipt of transmitted asynchronous message by the detection subsystem

Claim 61 (Previously Presented): The computing system of claim 58, further comprising a group item queue to which the updating subsystem adds the identified group items if not already present in the group item queue.

Claim 62 (Previously Presented): The computing system of claim 58, further comprising a transmission subsystem that, in response to a detected change to availability information of at least one individual item, for at least one of the group items identified as containing the individual item, transmits an asynchronous message indicating the updated availability information for the group item.

Claim 63 (Previously Presented): The computing system of claim 58, further comprising a broadcasting subsystem that broadcasts to a plurality of recipients an asynchronous message indicating the update of availability information for each of the identified group items whose availability information is updated.

Reasons for Allowance

4. Claims 1-3, 24-35, 37, and 39-63 are allowed over the prior art made of record.

5. The following is a statement of reasons for allowance:

The prior art of record (Kumar et al. -U.S. Pub. No. 2002/0042756 A1- and Knorr et al. -U.S. Pub. No. 2002/0077929 A1- and Lin et al. -U.S. Pub. No. 2002/0077919 A1) do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), initializing a FIFO queue of item groups to be empty; receiving a plurality of messages, each message identifying an offered item and indicating that the availability status of the identified item has changed; in response to each received message: identifying any item groups containing the identified item; for each identified item group: if the identified item group

is not present in the queue of item groups, appending the item group to the queue, as claimed in Independent claims 1, 39, and 42, in conjunction with remaining claims provisions.

Claims 2-3, 40-41, and 43-44 are allowed over the prior art made of record, because they are dependent from the allowed independent claims 1, 39, and 42, respectively.

The prior art of record (Kumar et al. -U.S. Pub. No. 2002/0042756 A1- and Knorr et al. - U.S. Pub. No. 2002/0077929 A1- and Lin et al. -U.S. Pub. No. 2002/0077919 A1) do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), detecting each of a plurality of changes to availability information of individual items; in response to each detected change to availability information of an individual item: identifying group items containing the individual item; and for each of the identified group items, updating availability information of the identified group item using current availability information for each of the individual items contained by the identified group item, as claimed in Independent claims 24, 45, and 58, in conjunction with remaining claims provisions.

Claims 25-35, 37, 46-57, and 59-63, are allowed over the prior art made of record, because they are dependent from the allowed independent claims 24, 45, and 58, respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 571-272-4074. The examiner can normally be reached on 8:30AM-5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 571-272-4038. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Neveen Abel-Jalil
January 4, 2005


CHARLES RONES
PRIMARY EXAMINER



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,966	11/28/2001	John Chenault	249768059US	9230
25096	7590	03/04/2005	EXAMINER	
PERKINS COIE LLP			ABEL JALIL, NEVEEN	
PATENT-SEA			ART UNIT	
P.O. BOX 1247			2165	
SEATTLE, WA 98111-1247			PAPER NUMBER	

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
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P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (703) 746-4000

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CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

25096 7590 01/13/2005

PERKINS COIE LLP
 PATENT-SEA
 P.O. BOX 1247
 SEATTLE, WA 98111-1247

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (703) 746-4000, on the date indicated below.

Jeanne Connelly (Depositor's name)
 Jeanne Connelly (Signature)
 June 1, 2005 (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,966	11/28/2001	John Chenault	249768059US	9230

TITLE OF INVENTION: MAINTAINING THE CURRENCY OF AVAILABILITY INFORMATION FOR BUNDLES OF ITEMS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$0	\$1400	6/4/2005

EXAMINER	ART UNIT	CLASS-SUBCLASS
ABEL JALIL, NEVEEN	2165	707-008000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Perkins Coie LLP
 2
 3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Amazon.com, Inc.

Seattle, Washington

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:

- ☒ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☒ Advance Order - # of Copies 1

4b. Payment of Fee(s):

- ☒ A check in the amount of the fee(s) is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached. any additional
☒ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number 50-0665 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature

Date

Typed or printed name

Steven D. Lawrenz

Registration No.

37,376

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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25096 7590 03/04/2005

PERKINS COIE LLP
PATENT-SEA
P.O. BOX 1247
SEATTLE, WA 98111-1247**RECEIVED****MAR 07 2005****PERKINS COIE LLP**

EXAMINER

ABEL JALIL, NEVEEN

ART UNIT

PAPER NUMBER

2165

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Supplemental
Notice of Allowability**

Application No.

09/995,966

Examiner

Neveen Abel-Jalil

Applicant(s)

CHENAULT, JOHN

Art Unit

2165

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to November 24, 2004.
2. ☒ The allowed claim(s) is/are 1-3,24-35,37 and 39-63.
3. ☒ The drawings filed on 28 November 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


CHARLES RONES
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

Remarks

1. In response to Attorney of Record's telephone request on February 4, 2005 to correct a typo in the Examiner's Answer, hereby a supplemental Examiner's Answer/Allowance is attached.
2. In response to the after-final amendment filed on October 25, 2004, claims 4-23, 36, and 38, have been cancelled. Claims 39-63 have been newly added. Therefore, claims 1-3, 24-35, 37, and 39-63 are now pending.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Steven D. Lawrenz (Attorney of Record) on January 4, 2005, and again on February 4, 2005.

4. The application has been amended as follows:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listings of Claims:

Claim 1 (Original): A method in a computing system for updating the availability status attributed to predefined groups of offered items, comprising:

initializing a FIFO queue of item groups to be empty;

receiving a plurality of messages, each message identifying an offered item and

indicating that the availability status of the identified item has changed;

in response to each received message:

identifying any item groups containing the identified item;

for each identified item group:

if the identified item group is not present in the queue of item groups, appending the item group to the queue;

when a timer expires:

for a predetermined number of item groups in the queue of item groups:

removing the item group from the queue of item groups;

updating the availability status attributed to the item group, based upon availability statuses of the items within the item group;

if, after removing the predetermined number of item groups, the queue of item groups is empty, setting a timer having a first duration; and

if, after removing the predetermined number of item groups, the queue of item groups is not empty, setting a timer having a second duration that is shorter than the first duration.

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Claim 2 (Original): The method of claim 1 wherein the updating includes intersecting the availability statuses of the items within the item group.

Claim 3 (Original): The method of claim 1 wherein identifying any item groups containing the identified item includes accessing a list of item groups indexed by the items that they contain.

Claims 4-23 (Cancelled)

Claim 24 (Previously Presented): A method in a computing system for updating availability information for group items each containing one or more individual items, comprising:

- detecting each of a plurality of changes to availability information of individual items;

- in response to each detected change to availability information of an individual item:

- identifying group items containing the individual item; and

- for each of the identified group items, updating availability information of the identified group item using current availability information for each of the individual items contained by the identified group item,

- wherein each of the following availability information items is updated in at least one of the identified group items:

- a number of units available to sell in the a closest time bucket;

- the identify of the closest time bucket in which units will be available to sell;

- a range of error in the closest time bucket;

- the source of the units that are available to sell;

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whether units can be replenished if more are needed than are in a first time bucket;
a source from which units can be replenished if more are needed than are in the first time bucket;
a replenishment cycle for the item;
whether the item is suspended from sale; and
when stock in the item is expected to be exhausted.

Claim 25 (Original): The method of claim 24 wherein the detecting and identifying is performed in a first process, and wherein the updating is performed in a second process distinct from the first process.

Claim 26 (Original): The method of claim 24 wherein the detecting and identifying is performed by a first daemon, and wherein the updating is performed in a second daemon distinct from the first daemon.

Claim 27 (Original): The method of claim 24 wherein the detecting includes transmitting an asynchronous message for each detected change to availability information of an individual item.

Claim 28 (Original): The method of claim 27 wherein the identifying and updating is performed in response to receiving the transmitted asynchronous message.

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Claim 29 (Original): The method of claim 24 wherein the detecting includes broadcasting to a plurality of recipients an asynchronous message for each detected change to availability information of an individual item.

Claim 30 (Original): The method of claim 24, further comprising adding the identified group items to a group item queue if not already present in the group item queue.

Claim 31 (Original): The method of claim 30 wherein availability information of group items in the group item queue is updated when a scheduling mechanism triggers the updating.

Claim 32 (Original): The method of claim 24 wherein the identifying and updating is performed immediately in response to the each detected change to availability information of an individual item.

Claim 33 (Original): The method of claim 24 wherein the identifying and updating is performed at a time later than each detected change to availability information of an individual item.

Claim 34 (Original): The method of claim 24 wherein the detecting includes receiving asynchronous messages each describing a cause for modifying availability information of an individual item.

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Claim 35 (Original): The method of claim 24, further comprising, in response to a detected change to availability information of at least one individual item, for at least one of the group items identified as containing the individual item, transmitting an asynchronous message indicating the updated availability information for the group item.

Claim 36 (Cancelled)

Claim 37 (Original): The method of claim 24, further comprising broadcasting to a plurality of recipients an asynchronous message indicating the update of availability information for each of the identified group items whose availability information is updated.

Claim 38 (Cancelled)

Claim 39 (Previously Presented): A computer-readable medium whose contents cause a computing system to perform a method for updating the availability status attributed to predefined groups of offered items, the method comprising:

- initializing a FIFO queue of item groups to be empty;

- receiving a plurality of messages, each message identifying an offered item and

- indicating that the availability status of the identified item has changed;

- in response to each received message:

- identifying any item groups containing the identified item;

- for each identified item group:

if the identified item group is not present in the queue of item groups, appending the item group to the queue;

when a timer expires:

for a predetermined number of item groups in the queue of item groups:

removing the item group from the queue of item groups;

updating the availability status attributed to the item group, based upon availability statuses of the items within the item group;

if, after removing the predetermined number of item groups, the queue of item groups is empty, setting a timer having a first duration; and

if, after removing the predetermined number of item groups, the queue of item groups is not empty, setting a timer having a second duration that is shorter than the first duration.

Claim 40 (Previously Presented): The computer-readable medium of claim 39 wherein the updating includes intersecting the availability statuses of the items within the item group.

Claim 41 (Previously Presented): The computer-readable medium of claim 39 wherein identifying any item groups containing the identified item includes accessing a list of item groups indexed by the items that they contain.

Claim 42 (Previously Presented): A computing system for updating the availability status attributed to predefined groups of offered items, comprising:

an initialization subsystem that initializes a FIFO queue of item groups to be empty;

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a receiving subsystem that receives a plurality of messages, each message identifying an offered item and indicating that the availability status of the identified item has changed;

a message processing subsystem that, in response to each received message:

identifies any item groups containing the identified item;

for each identified item group:

if the identified item group is not present in the queue of item groups, appends the item group to the queue;

a timer; and

a queue processing subsystem that,

when a timer expires:

for a predetermined number of item groups in the queue of item groups:

removes the item group from the queue of item groups;

updates the availability status attributed to the item group, based upon availability statuses of the items within the item group;

if, after removing the predetermined number of item groups, the queue of item groups is empty, sets a timer having a first duration; and

if, after removing the predetermined number of item groups, the queue of item groups is not empty, sets a timer having a second duration that is shorter than the first duration.

Claim 43 (Previously Presented): The computing system of claim 42 wherein the updating performed by the queue processing subsystem includes intersecting the availability statuses of the items within the item group.

Claim 44 (Previously Presented): The computing system of claim 42 wherein the identification of any item groups containing the identified item performed by the message processing subsystem includes accessing a list of item groups indexed by the items that they contain.

Claim 45 (Previously Presented): A computer-readable medium whose contents cause a computing system to perform a method for updating availability information for group items each containing one or more individual items, the method comprising:

- detecting each of a plurality of changes to availability information of individual items;
- in response to each detected change to availability information of an individual item:
- identifying group items containing the individual item; and
- for each of the identified group items, updating availability information of the identified group item using current availability information for each of the individual items contained by the identified group item,

wherein each of the following availability information items is updated in at least one of the identified group items:

- a number of units available to sell in a closest time bucket;
- the identify of the closest time bucket in which units will be available to sell;
- a range of error in the closest time bucket;
- the source of the units that are available to sell;
- whether units can be replenished if more are needed than are in a first time bucket;

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a source from which units can be replenished if more are needed than are in the first time bucket;

a replenishment cycle for the item;

whether the item is suspended from sale; and

when stock in the item is expected to be exhausted.

Claim 46 (Previously Presented): The computer-readable medium of claim 45 wherein the detecting and identifying is performed in a first process, and wherein the updating is performed in a second process distinct from the first process.

Claim 47 (Previously Presented): The computer-readable medium of claim 45 wherein the detecting and identifying is performed by a first daemon, and wherein the updating is performed in a second daemon distinct from the first daemon.

Claim 48 (Previously Presented): The computer-readable medium of claim 45 wherein the detecting includes transmitting an asynchronous message for each detected change to availability information of an individual item.

Claim 49 (Previously Presented): The computer-readable medium of claim 45 wherein the identifying and updating is performed in response to receiving the transmitted asynchronous message.

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Claim 50 (Previously Presented): The computer-readable medium of claim 45 wherein the detecting includes broadcasting to a plurality of recipients an asynchronous message for each detected change to availability information of an individual item.

Claim 51 (Previously Presented): The computer-readable medium of claim 45, the method further comprising adding the identified group items to a group item queue if not already present in the group item queue.

Claim 52 (Previously Presented): The computer-readable medium of claim 51 wherein availability information of group items in the group item queue is updated when a scheduling mechanism triggers the updating.

Claim 53 (Previously Presented): The computer-readable medium of claim 45 wherein the identifying and updating is performed immediately in response to the each detected change to availability information of an individual item.

Claim 54 (Previously Presented): The computer-readable medium of claim 45 wherein the identifying and updating is performed at a time later than each detected change to availability information of an individual item.

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Claim 55 (Previously Presented): The computer-readable medium of claim 45 wherein the detecting includes receiving asynchronous messages each describing a cause for modifying availability information of an individual item.

Claim 56 (Previously Presented): The computer-readable medium of claim 45, the method further comprising, in response to a detected change to availability information of at least one individual item, for at least one of the group items identified as containing the individual item, transmitting an asynchronous message indicating the updated availability information for the group item.

Claim 57 (Previously Presented): The computer readable medium of claim 45, the method further comprising broadcasting to a plurality of recipients an asynchronous message indicating the update of availability information for each of the identified group items whose availability information is updated.

Claim 58 (Currently Amended): A computing system for updating availability information for group items each containing one or more individual items, comprising:

- a detection subsystem that detects each of a plurality of changes to availability information of individual items;

- an updating subsystem that, in response to each detected change to availability information of an individual item:

- identifies group items containing the individual item; and

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for each of the identified group items, ~~updating~~ updates availability information of the identified group item using current availability information for each of the individual items contained by the identified group item,

wherein each of the following availability information items is updated in at least one of the identified group items:

- a number of units available to sell in a closest time bucket;
- the identify of the closest time bucket in which units will be available to sell;
- a range of error in the closest time bucket;
- the source of the units that are available to sell;
- whether units can be replenished if more are needed than are in a first time bucket;
- a source from which units can be replenished if more are needed than are in the first time bucket;
- a replenishment cycle for the item;
- whether the item is suspended from sale; and
- when stock in the item is expected to be exhausted.

Claim 59 (Previously Presented): The computing system of claim 58 wherein the detecting performed by the detection subsystem includes transmitting an asynchronous message for each detected change to availability information of an individual item.

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Claim 60 (Previously Presented): The computing system of claim 59 wherein the identifying and updating is performed in response to receipt of transmitted asynchronous message by the detection subsystem

Claim 61 (Previously Presented): The computing system of claim 58, further comprising a group item queue to which the updating subsystem adds the identified group items if not already present in the group item queue.

Claim 62 (Previously Presented): The computing system of claim 58, further comprising a transmission subsystem that, in response to a detected change to availability information of at least one individual item, for at least one of the group items identified as containing the individual item, transmits an asynchronous message indicating the updated availability information for the group item.

Claim 63 (Previously Presented): The computing system of claim 58, further comprising a broadcasting subsystem that broadcasts to a plurality of recipients an asynchronous message indicating the update of availability information for each of the identified group items whose availability information is updated.

Reasons for Allowance

5. Claims 1-3, 24-35, 37, and 39-63 are allowed over the prior art made of record.

Art Unit: 2165

6. The following is a statement of reasons for allowance:

The prior art of record (Kumar et al. -U.S. Pub. No. 2002/0042756 A1- and Knorr et al. - U.S. Pub. No. 2002/0077929 A1- and Lin et al. -U.S. Pub. No. 2002/0077919 A1) do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), initializing a FIFO queue of item groups to be empty; receiving a plurality of messages, each message identifying an offered item and indicating that the availability status of the identified item has changed; in response to each received message: identifying any item groups containing the identified item; for each identified item group: if the identified item group is not present in the queue of item groups, appending the item group to the queue, as claimed in Independent claims 1, 39, and 42, in conjunction with remaining claims provisions.

Claims 2-3, 40-41, and 43-44 are allowed over the prior art made of record, because they are dependent from the allowed independent claims 1, 39, and 42, respectively.

The prior art of record (Kumar et al. -U.S. Pub. No. 2002/0042756 A1- and Knorr et al. - U.S. Pub. No. 2002/0077929 A1- and Lin et al. -U.S. Pub. No. 2002/0077919 A1) do not disclose, teach, or suggest the claimed limitations of (in combination with all other features in the claim), detecting each of a plurality of changes to availability information of individual items; in response to each detected change to availability information of an individual item: identifying group items containing the individual item; and for each of the identified group items, updating availability information of the identified group item using current availability

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information for each of the individual items contained by the identified group item, as claimed in Independent claims 24, 45, and 58, in conjunction with remaining claims provisions.

Claims 25-35, 37, 46-57, and 59-63, are allowed over the prior art made of record, because they are dependent from the allowed independent claims 24, 45, and 58, respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 571-272-4074.


The examiner can normally be reached on 8:30AM-5: 30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 571-272-4038. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2165

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Neveen Abel-Jalil
February 4, 2005


CHARLES RONES
PRIMARY EXAMINER

JUN 02 2005

Express Mail No. EV670649788US

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
(703) 746-4000

or Fax

JUN 01 2005

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All future correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

25096 7590 01/13/2005

PERKINS COIE LLP
PATENT-SEA
P.O. BOX 1247
SEATTLE, WA 98111-1247

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (703) 746-4000, on the date indicated below.

16/03/2005 FFAHIA3 00000119 09995966

11 FC:1501 1400.00 OP
12 FC:8001 3.00 OP

Jeanne Connelly (Depositor's name)
June 1, 2005 (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,966	11/28/2001	John Chenault	249768059US	9230

TITLE OF INVENTION: MAINTAINING THE CURRENCY OF AVAILABILITY INFORMATION FOR BUNDLES OF ITEMS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$0	\$1400	6/4/2005

EXAMINER	ART UNIT	CLASS-SUBCLASS
ABEL JALIL, NEVEEN	2165	707-008000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.563).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

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(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

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2

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3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Amazon.com, Inc.

Seattle, Washington

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:

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☒ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number 50-0665 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.
NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature

Date

Typed or printed name Steven D. Lawrenz

Registration No. 37,376

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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